



A beautiful street tree, the native *Sida*, *Zizyphus spina-christi*



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Why Arboriculture Matters

By Mark Laurence

Trees are an essential part of life in the Gulf region, they make living more bearable, streets cooler, hold back the shifting sands, and provide essential ecosystem services. Currently there is no practice, and very little awareness of arboriculture as a profession in the region. So, what is it exactly? The UK Arboricultural Association defines the word as: "...the science and practice of the cultivation, establishment and management of amenity trees for the benefit of society."

Looking after trees, sounds simple, right? Well, not always. There is an art, as well as a science, to caring for trees and this manifests itself in different ways. It starts with the quality of nursery stock, a good root system and a healthy, well-formed structure, followed by correct planting, staking and irrigation. The most obvious and visual sign of incorrect care is when trees are pruned. Badly pruned trees not only look hideous, they create problematic future growth,



A beautiful and under-used native, *Tecoma undulata*



Flowers of the beautiful exotic tree, *Delonix regia*. They flower less if over-watered.



Trees arrive from abroad, badly pruned, as this olive is (*Olea europaea*)



Major crown reduction of a retrenched *Eucalyptus* in Abu Dhabi, using a professional UK trained arborist.

altering the tree's physiology (manner of growth) and can create entry points for disease.

Most of the above requirements for good tree provision is missing in the Gulf region. This is not unique to the region, there are low-quality trees everywhere in the world, but the combination of cheap supply quotes, tight timescales, poor planting and high temperature make this an especial problem and can create high mortality rates across the region.

Trees should be understood and used as ecosystem generators, even in urban situations. The shade and evapotranspiration that occurs from

a tree can reduce street temperature and the effects of Urban Heat Island (UHI), where the urban fabric retains heat and is hotter by some 4-5°C than the surrounding land. Insects and birds use trees as wildlife passages and people use them as shade corridors. Even fungi and decay are a valuable part of the ecosystem and should be understood as such, within the context of human safety.

There has been a big increase in the number of large trees being transplanted in the region but again, much of the methodology and techniques need improving. Dug rootballs are generally too small for the stem diameter, and excessive crown

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Street shade provided by a Fig, *Ficus benghalensis*

reduction is thought essential, whereas it simply removes the tree's ability to photosynthesize, meaning it must replace both root and bough from (limited) stored energy.

On development sites, there needs to be adequate measures taken to protect retained trees from damage, not just the structure but the roots also. A Critical Root Area or Zone needs establishing around trees and fencing off for the duration of works, with no materials or vehicles allowed underneath. This simple act can mean the difference between a new building with healthy established trees, or ones that slowly die due to damage such as root cutting or soil compaction. An Arborist should be brought in to consult at the planning stage to set out the requirements for the site, and working practices adapted around this.

Aboriculture takes two professional forms: trained climbers who know how to carry out operations safely and correctly within a tree, such as pruning with chainsaws, and consultants, who survey and specify works. The latter will often have a background in climbing (as I do) and I believe, make better consultants for it. It is the consultant who can work with architects and developers, but he needs to call on a competent arborist team to carry out the works as specified.



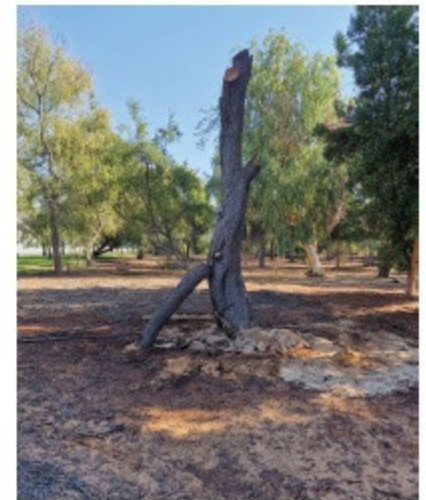
A broad-spreading mango tree (*Mangifera indica*)

The climbing arborist also needs a highly trained ground crew, who know how to communicate, work safely with lowering ropes within the allocated drop zone, etc. One should also be a climbing arborist able to carry out aerial rescue in the event of an accident. This is a high-risk profession; accidents do occur even with the best training.

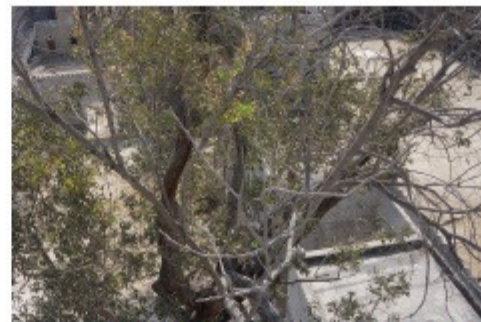
Working within the reach of power lines requires additional training and extreme care. On large or restricted sites, there may be a need to use cranes to lift away sections of a



Badly pruned buttonwood (*Conocarpus erectus*)



A badly transplanted Ghat tree – how NOT to do it



Surveying from a MEWP a retrenched *Eucalyptus* prior to specifying crown reduction work in this confined historic site, Abu Dhabi.



Lopsided pruning of these *Moringa peregrina*, Al Itihad park.



A severely hacked tree in a private garden

tree. Unfortunately, the skills and qualifications required for these jobs are in short order (in fact, hardly exist at all) in the Gulf region and this presents both problems and opportunity for the growth of a new industry.

The region must adopt their own good practices in relation to tree works. In the UK for example, we have British Standards BS 3998 Tree Work – Recommendations and BS5837 Trees in Relation to Design, Demolition and Construction. In the US they have similar ANSI standards. While I understand there is attempts being made to write a tree works standard for the UAE, which

I support, it's only in the nascent stages. However, when completed, this will be something that all architects and developers can refer and will hopefully signal the beginning of higher standards in tree care. ■